h) that the development of more spectrum-efficient meteorological aids systems is continuing in order to minimize the bandwidth required by these systems, as outlined in Recommendation SA.1165, and that recent development of these related technologies has been rapid;

i) that sharing studies to date have shown that co-channel sharing between currently proposed non-GSO MSS systems and meteorological aids in the band 401 - 406 MHz is not generally feasible, that any sharing would require band segmentation and that the band 405 - 406 MHz has been named by some administrations as a possible candidate band for such a new allocation;

j) that any transition of meteorological aids from the band 405 - 406 MHz should not increase the operational costs of meteorological aids networks beyond the available financial resources, and should not constrain the future development of the meteorological aids service, while using more spectrum-efficient systems;

k) that the COSPAS-SARSAT system operates within an exclusive allocation in the band 406 - 406.1 MHz, that the radio astronomy service has a primary allocation in the band 406.1 - 410 MHz and that these services need to be protected from MSS transmissions including unwanted emissions,

noting

a) that the possible use of the band 405 - 406 MHz by the mobile-satellite service should be limited to systems using narrow-band modulation techniques until further ITU-R studies conclude that other modulation techniques can protect COSPAS-SARSAT (406 - 406.1 MHz) and the radio astronomy service (406.1 - 410 MHz);

b) that Resolution **214 (Rev.WRC-97)** also addresses sharing studies relating to consideration of the allocation of bands below 1 GHz to the non-GSO mobile-satellite service,

resolves to invite ITU-R

1 as a matter of urgency, with the participation of WMO, to assess further the current and future requirements of the meteorological aids service in the band 401 - 406 MHz, taking into account the requirements of the earth exploration-satellite service and the meteorological-satellite service in the band 401 - 403 MHz;

2 as a matter of urgency, with the participation of WMO, to consider the possible transition of the meteorological aids service out of the band 405 - 406 MHz, which would minimize the impact on the meteorological aids service, while taking into account requirements for the implementation of non-GSO MSS;

3 to consider, based on the outcome of 1 and 2 above, a possible transition plan, including a transition date at which time meteorological aids could migrate their operations out of the band 405 - 406 MHz and MSS operations could commence;

4 as a matter of urgency, to study, with the participation of IUCAF and other relevant entities, the impact of unwanted emissions on the COSPAS-SARSAT system in the band 406 - 406.1 MHz and the radio astronomy service in the band 406.1 - 410 MHz, and identify appropriate protection measures for these services,

resolves

that the 1999 World Radiocommunication Conference (WRC-99)/a future competent conference be invited to consider, based on the outcome of *resolves to invite ITU-R* above, the possibility of allocating the band 405 - 406 MHz to the mobile-satellite service, including any appropriate transition plan,

urges administrations

1 to assess their current and future requirements for meteorological aids systems in the band 401 - 406 MHz taking into account the requirements of the earth exploration-satellite service and the meteorological-satellite service in the 401 - 403 MHz band;

2 to, either individually or on a subregional or regional basis, report to WMO and ITU-R on whether the whole of the band 401 - 406 MHz will be needed for meteorological aids, and the possibility of transition out of the band 405 - 406 MHz;

3 to submit to ITU-R the most up-to-date information on their plans for possible implementation of non-GSO MSS systems and the associated spectrum requirements,

instructs the Secretary-General

to bring this Resolution to the attention of WMO.

RES COM5-26 (Not used)

RESOLUTION COM5-27 (WRC-97)

USE OF THE BANDS 18.8 - 19.3 GHz AND 28.6 - 29.1 GHz BY NETWORKS OPERATING IN THE FIXED-SATELLITE SERVICE

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that, by its Resolution **118**, the World Radiocommunication Conference (Geneva, 1995) recommended that this Conference review the results of studies carried out by ITU-R relating to the use of the frequency bands 20/30 GHz;

b) that it also recommended that this Conference take appropriate action, including adjustments to spectrum allocations, for the harmonious development of GSO and non-GSO systems and terrestrial services in the same bands;

c) that it has reviewed the above studies, and has taken appropriate action in relation to the use of the frequency bands 18.8 - 18.9 GHz and 28.6 - 28.7 GHz as indicated in No. MOD **S5.523A**;

d) that, in its Resolution **118**, WRC-95 considered:

- that the development of GSO and non-GSO systems in the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz entails major global investment and, consequently, their reciprocal coordination needs the firm commitment of all parties concerned on the basis of application of Resolution **46 (Rev.WRC-97)**;
- that WRC-97 should consider the non-application of No. **S22.2** (No. **2613**) of the Radio Regulations in the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz in light of the spectrum requirements for non-GSO FSS systems;

e) that WRC-95 adopted in *resolves* 1 to 5 of Resolution **118** the procedures applicable to the frequency bands 18.9 - 19.3 GHz and 28.7 - 29.1 GHz only;

f) that, in the light of *considering* d) and e) above, GSO and non-GSO FSS systems referred to in MOD **S5.523A** are being developed in the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz;

g) that MOD **S5.523A** will enter into force on the date indicated in Article **S59** of the Radio Regulations;

h) that WRC-97 decided to delete Resolution **118**, as of 22 November 1997,

noting

that the band 18.8 - 19.3 GHz is heavily used by the fixed service and there is a need to continue the use of this band in many countries,

resolves

1 that, as of 18 November 1995, the provisions of Resolution **46 (Rev.WRC-95)** (Resolution **46 (Rev.WRC-97)**/No. **S9.11A** as of 22 November 1997) shall apply and No. **S22.2** of the Radio Regulations shall not apply in the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz, to frequency assignments of GSO and non-GSO systems of the fixed-satellite service;

2 that should modifications arise to frequency assignments of non-GSO FSS systems which were notified before 18 November 1995, when coordination was not required, then no coordination is required when the characteristics of the modified frequency assignment are within the limits of those of the original notification,

instructs the Radiocommunication Bureau

to apply the provisions of MOD **S5.523A (WRC-97)**, in the bands 18.8 - 19.3 GHz and 28.6 - 29.1 GHz, as from 22 November 1997.

RESOLUTION COM5-28 (WRC-97)

SHARING BETWEEN THE FIXED SERVICE AND OTHER SERVICES IN THE BAND 37 - 40 GHz

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the band 37 - 40 GHz is allocated to the fixed service on a primary basis and that an increasing number of stations in the fixed service are deployed or being planned for use;

b) that the band 37.5 - 40.0 GHz is allocated on a primary basis to the fixed-satellite service and that an increasing number of FSS systems are being planned for use;

c) that the deployment of high-density systems in either the fixed or fixed-satellite service may result in interference to the fixed-satellite service from stations in the fixed service, and that the priority and degree of protection afforded to the fixed-satellite service is a matter for each administration to consider;

d) that although sharing is feasible between earth stations in the fixed-satellite service and terrestrial stations provided appropriate coordination procedures and/or operational techniques are employed, sharing may in practice become difficult when high geographic densities of such stations are deployed in bands heavily used by either service;

e) that sharing could be facilitated by the adoption of appropriate frequency sub-bands, such as the gaps between the channelling plans recommended by ITU-R for the fixed service;

f) that it may be useful to consider the identification of this spectrum range for high-density fixed service applications,

requests ITU-R

1 to conduct studies in time for WRC-99 to determine whether the power flux-density limits included in Article **S21** adequately protect terrestrial services from fixed-satellite service networks;

2 to conduct other studies leading to technical and operational recommendations to facilitate sharing between terrestrial and space services,

urges administrations

to participate actively in the aforementioned studies by submitting contributions to ITU-R,

requests

WRC-99 to consider the identification of spectrum in the band 37 - 40 GHz for high-density applications in the fixed service.

RESOLUTION COM5-29 (WRC-97)

USE OF THE FREQUENCY BAND 40.5 - 42.5 GHz BY THE FIXED-SATELLITE SERVICE

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that this Conference has added a primary allocation to the fixed-satellite (space-to-Earth) service in Regions 2 and 3 and in certain countries in Region 1 and to the fixed service in the band 40.5 - 42.5 GHz;

b) that sharing criteria for the use of the band 40.5 - 42.5 GHz by the fixed-satellite service have not been studied by ITU-R,

recognizing

that Resolution COM5-17 invites ITU-R to undertake, as a matter of urgency, studies of appropriate criteria and methodologies for sharing between the fixed-satellite service and the other services with allocations in the band 40.5 - 42.5 GHz,

resolves

1 that the date of the provisional application of the allocation to the fixed-satellite service in Regions 1 and 3 in the band 40.5 - 42.5 GHz is 1 January 2001;

2 that WRC-99 should review this allocation, including the date of 1 January 2001, taking full account of the requirements of the other services to which the band is allocated and available ITU-R studies.

RESOLUTION COM5-30 (WRC-97)

IMPLEMENTATION OF RESOLUTION 46 (Rev.WRC-97)

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that this Conference has modified Resolution **46**;

b) that the revised version of Resolution **46** is referred to in several footnotes in the Table of Frequency Allocations of the Radio Regulations that have been modified by this Conference;

c) that these footnotes shall apply provisionally only as from 1 January 1999;

d) that some administrations have expressed the wish to start the coordination procedure contained in Resolution **46 (Rev.WRC-97)** as soon as possible following this Conference,

considering further

that some administrations have already submitted information on projected networks,

instructs the Bureau

to apply, as of 22 November 1997, the provisions of Resolution **46 (Rev.WRC-97)** to those bands in which the Resolution is mentioned.

RESOLUTION COM5-31 (WRC-97)

STUDIES TO CONSIDER THE FEASIBILITY OF USING A PORTION OF THE BAND 1 559 - 1 610 MHz BY THE MOBILE-SATELLITE SERVICE (SPACE-TO-EARTH)

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the band 1 559 - 1 610 MHz is allocated on a primary basis to the aeronautical radionavigation and radionavigation-satellite services;

b) that proposals were made to WRC-97 for an allocation to the mobile-satellite service in the band 1 559 - 1 567 MHz;

c) that the aeronautical radionavigation and radionavigation-satellite services are safety services in the space-to-Earth direction and must be protected from harmful interference (No. S4.10 of the Radio Regulations applies);

d) that studies carried out by some administrations indicate that an aggregate power flux-density limit at the Earth's surface of -112 dB(W/m^2/1 MHz) for all angles of arrival from the mobile-satellite service space station is appropriate for the protection of aeronautical radionavigation and radionavigation-satellite services;

e) that other administrations have conducted studies and have concluded that the power flux-density referred to in *considering* d) does not provide protection for the aeronautical radionavigation and radionavigation-satellite service;

f) that studies have not been conducted in ITU-R on the sharing possibilities between the MSS and the aeronautical radionavigation or radionavigation-satellite services in the 1 559 - 1 610 MHz band;

g) that the band 1 559 - 1 610 MHz is used by the GPS and GLONASS radionavigation-satellite systems and their augmentations, and that these systems are components of the International Civil Aviation Organization (ICAO) global navigation satellite system (GNSS);

h) that the International Maritime Organization (IMO) has recognized GPS and GLONASS as elements of their GNSS;

i) that the aeronautical radionavigation and radionavigation-satellite systems are evolutionary systems and that other GNSS systems are under development for operation in the band 1 559 - 1 610 MHz;

j) that studies are currently being conducted in ITU-R for use in the radionavigation-satellite service in the space-space direction,

recognizing

1 the essential need to protect systems operating in the aeronautical radionavigation and radionavigation-satellite service in the band 1 559 - 1 610 MHz;

2 the requirement for additional spectrum for the mobile-satellite service;

3 that Resolution 213 (Rev.WRC-95) identifies the possible use in parts of the band 1 675 - 1 710 MHz in the Earth-to-space direction and invites ITU-R to investigate potentially suitable downlink bands that may assist in meeting the requirements of the MSS,

resolves to request ITU-R

to study, as a matter of urgency, the technical criteria and operational and safety requirements to determine if sharing between the aeronautical radionavigation and radionavigation-satellite services operating, or planned to operate, in the band 1 559 - 1 610 MHz, and the mobile-satellite service in a portion of the 1 559 - 1 567 MHz frequency range, is feasible, taking into account the above *recognizing*,

further resolves

1 to instruct the Director of the Radiocommunication Bureau to facilitate to the greatest extent possible, the completion of these studies in time for consideration by WRC-99;

2 to recommend that WRC-99 take into account the results of ITU-R studies in evaluating the feasibility of an allocation in the space-to-Earth direction to the mobile-satellite service in a portion of the 1 559 -1 567 MHz frequency range;

3 to urge all administrations and concerned organizations, including ICAO, IALA and IMO, to contribute to these studies and cooperate to the maximum extent possible, to ensure a mutually satisfactory result is presented to WRC-99.

RECOMMENDATION 7 (Rev.WRC-97)

ADOPTION OF STANDARD FORMS FOR SHIP STATION AND SHIP EARTH STATION LICENCES AND AIRCRAFT STATION AND AIRCRAFT EARTH STATION LICENCES[1, 2]

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the standardization of the licence forms issued to stations installed on board ships and aircraft making international voyages and flights would greatly facilitate the task of inspection of such stations;

b) that standard licence forms for ship stations and for aircraft stations would serve as a useful guide to those administrations desiring to improve their existing national licences;

c) that standard licence forms could be advantageously used by these administrations as the form of certification specified in No. **S18.8** of the Radio Regulations,

considering further

that the Administrative Radio Conference (Geneva, 1959), formulated:

a) a set of principles for the draft of a standard licence form (see Annex 1);

b) specimens of a ship station licence and of an aircraft station licence (see Annexes 2 and 3),

considering also

changes in radio systems and shipborne radiocommunication equipment introduced in connection with the implementation of the Global Maritime Distress and Safety System (GMDSS),

recommends

1. that administrations which find these forms practicable and acceptable should adopt them for international use;

2. that administrations should, as far as possible, endeavour to bring their national licence forms into line with these standard forms.

---

[1] Replaces Recommendation 17 of the Administrative Radio Conference (Geneva, 1959).

[2] Throughout this Recommendation, references to ship stations may include references to ship earth stations and references to aircraft stations may include references to aircraft earth stations.

MOD

ANNEX 1 TO RECOMMENDATION 7 (Rev.WRC-97)

Principles for the Formulation of Standard Ship and Aircraft Station Licences

The Administrative Radio Conference (Geneva, 1959), considered that, in formulating standard ship and aircraft station licences, the following set of principles should be applied:

1. The licence should, as far as possible, be prepared in tabular form, and each line and column of the table clearly numbered or lettered.

2. The licence for ship stations and the licences for aircraft stations should be as similar as possible.

3. The size of the licence should be international standard A4.

4. The licence should be designed in a form which facilitates its exhibition on board a ship or an aircraft.

5. The licence should be printed in Latin characters in the national language of the country which issues it. Those countries whose national language cannot be written in Latin characters should use their national language and, in addition, English, Spanish or French.

6. The title "Ship Station Licence" or "Aircraft Station Licence" should appear at the top of the licence in the national language as well as in English, Spanish and French.

These principles were used in formulating the two standard forms which are given in Annexes 2 and 3.

MOD

ANNEX 2 TO RECOMMENDATION 7 (Rev.WRC-97)

(Full name of the authority issuing the licence,
in the national language)

.....*

SHIP STATION LICENCE
LICENCE DE STATION DE NAVIRE
LICENCIA DE ESTACIÓN DE BARCO

No. .....

Period of validity .....

In accordance with *(Title of the National Regulation)* and with the Radio Regulations which complement the Constitution and the Convention of the International Telecommunication Union now in force, this authorization is herewith issued for the installation and for the use of the radio equipment described below:

1	2			3	4
	Identification of the ship station				
Name of ship	Call sign	MMSI	Other identification (optional)	Holder of licence	Accounting authority identification code, or additional information including accounting information if required

	Equipment	Type or description of equipment	Frequencies
5	Transmitters		**
6	Other equipment (optional)		

For the Issuing Authority:

.....

Place Date Authentication

* The words "Ship Station Licence" written in the national language, if this is not English, Spanish or French.

** Specifically or by reference to List V, columns 8 and 9.

(MOD)

ANNEX 3 TO RECOMMENDATION 7 (Rev.WRC-97[1])

(Full name of the authority issuing the licence,
in the national language)

.....*

AIRCRAFT STATION LICENCE
LICENCE DE STATION D'AÉRONEF
LICENCIA DE ESTACIÓN DE AERONAVE

No. .....

Period of validity .....

In accordance with *(Title of the National Regulation)* and with the Radio Regulations which complement the Constitution and the Convention of the International Telecommunication Union now in force, this authorization is herewith issued for the installation and for the use of the radio equipment described below:

1	2	3	4
Nationality and registration mark of the aircraft	Call sign or other identification	Type of aircraft	Owner of aircraft

		a	b	c	d
	Equipment	Type	Power (watts)	Class of emission	Frequency bands or assigned frequencies
5	Transmitters				**
6	Survival craft transmitters (when applicable)				**
7	Other equipment	(Optional)			

For the Issuing Authority:

.....

Place Date Authentication

---

[1] Note by the Editorial Committee - Annex 3 to Recommendation 7 (Rev.WRC-97) was not modified by Committee 4. It is included here by Committee 6 with the editorial modifications as introduced by Committee 4 to Annex 2 to that Recommendation.

* The words "Aircraft Station Licence" written in the national language, if this is not English, Spanish or French.

** Specifically or by reference.

RECOMMENDATION 66 (Rev.WRC-97)

STUDIES OF THE MAXIMUM PERMITTED LEVELS OF UNWANTED EMISSIONS

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that Appendix S3 to the Radio Regulations (Rev.WRC-97) specifies the maximum permitted levels of spurious emissions, in terms of the mean power level of any spurious component supplied by a transmitter to the antenna transmission line;

b) that the principal objective of Appendix S3 is to specify the maximum permitted levels of spurious emissions that, while being achievable, provide protection against harmful interference;

c) that excessive levels of unwanted emissions may give rise to harmful interference;

d) that while out-of-band emissions can also give rise to harmful interference, the Radio Regulations do not provide general limits for these emissions;

e) that while Appendix S3 applies generally to the mean power of a transmitter and its spurious emissions, it also takes account of the variety of emissions where interpretation of the term "mean power", and thus its measurement, would be difficult, particularly in the cases of digital modulation broadband systems, pulsed modulation and narrow-band high-power transmitters;

f) that while Appendix S3 covers spurious emissions for all radio services, those listed for space services are included only as design objectives;

g) that unwanted emissions from transmitters operating in space stations may cause harmful interference, particularly emissions from wideband amplifiers which cannot be adjusted after launch;

h) that unwanted emissions may cause harmful interference to safety services and radio astronomy and space services using passive sensors;

i) that, for technical or operational reasons, more stringent spurious emission limits than the general limits in Appendix S3 may be required to protect specific services, such as safety services and passive services in specific bands;

j) that broadband digital modulation may cause unwanted emissions at frequencies far from the carrier frequency,

noting

a) that safety services and passive services have in many cases been allocated frequencies adjacent or close to those of services employing high-power transmitters;

b) that some administrations have adopted more stringent limits for spurious emissions than those specified in Appendix S3,

recommends that ITU-R

1. study, as a matter of urgency, the question of spurious emissions resulting from space service transmissions, and, on the basis of those studies, develop Recommendations for maximum permitted levels of spurious emissions in terms of mean power of spurious components supplied by the transmitter to the antenna transmission line;

2. submit a report to WRC-99 on the results of its studies with a view to reviewing and including spurious emission limits for space services in Appendix S3 of the Radio Regulations;

3. continue the study of spurious emission levels in all frequency bands, emphasizing the study of those frequency bands, services and modulation techniques not presently covered by Appendix S3;

4. study the question of unwanted emissions resulting from transmitters of all services and all modulation methods, and, on the basis of those studies, develop a Recommendation or Recommendations for maximum permitted levels of spurious emissions and out-of-band emissions;

5. establish appropriate measurement techniques for unwanted emissions, where those techniques do not currently exist, including the determination of reference levels for wideband transmissions as well as the applicability of reference measurement bandwidths;

6. study the reasonable boundary of spurious emissions and out-of-band emissions with a view to defining such a boundary in Article S1 of the Radio Regulations;

7. study those frequency bands and instances where, for technical or operational reasons, more stringent spurious emission limits than the general limits in Appendix S3 may be required to protect safety services and passive services such as radio astronomy, and the impact on all concerned services of implementing or not implementing such limits;

8. study those frequency bands and instances where, for technical or operational reasons, out-of-band limits may be required to protect safety services and passive services such as radio astronomy, and the impact on all concerned services of implementing or not implementing such limits;

9. report to a future competent conference the results of studies under *recommends* 3, 4 and 5 above, with a view to recommending whether or not it is appropriate to include general limits for out-of-band emissions in the Radio Regulations;

10. report the results of studies under *recommends* 6, 7 and 8 above to a competent conference(s).

RECOMMENDATION No. 503 (Rev.WRC-97)

HF BROADCASTING

The World Radiocommunication Conference (Geneva, 1997),

considering

a) the congestion in the HF broadcasting bands;

b) the extent of adjacent channel interference;

noting

the possibility of improving the situation by implementing pertinent ITU-R Recommendations;

recommends that administrations

1. pay special attention to the provisions for "out-of-band spectrum" contained in Recommendation ITU-R SM.328-9;

2. encourage, to the maximum extent possible, manufacturers to design and build HF broadcasting receivers that conform to Recommendation ITU-R SM.332-4 concerning the selectivity of receivers;

invites administrations

to take advantage, to the maximum extent practicable, of synchronized frequency transmitter operation, taking into account Recommendation ITU-R BS.702-1;

invites ITU-R

to carry out further studies in relation to the Recommendations mentioned above, taking into account the requirements of HF broadcasting, with a view to updating these three Recommendations whenever necessary.

RECOMMENDATION No. 515 (Rev.WRC-97)

INTRODUCTION OF HF BROADCASTING TRANSMITTERS AND RECEIVERS CAPABLE OF OPERATION WITH SPECTRUM-EFFICIENT MODULATION TECHNIQUES

The World Radiocommunication Conference (Geneva, 1997),

considering

a) Resolution **517 (Rev.WRC-97)** relating to the introduction of SSB or other spectrum-efficient modulation techniques, including digital;

b) that industry should be encouraged to manufacture appropriate transmitters and receivers;

c) Appendix **S11** of the Radio Regulations relating to the SSB system specification for the HF bands allocated to the broadcasting service,

considering further

a) that the introduction of SSB or other spectrum-efficient modulation techniques can be accelerated by the appropriate transmitting and receiving equipment being more widely available in good time;

b) that lead-time is necessary for manufacturers to produce appropriate equipment,

invites ITU-R

to complete its studies into receivers for spectrum-efficient modulation techniques,

recommends administrations

to bring to the notice of transmitter and receiver manufacturers the most recent results of relevant ITU-R studies on spectrum-efficient modulation techniques suitable for use at HF as well as the information referred to in *considering c)*,

instructs the Secretary-General

to transmit this Recommendation to the International Electrotechnical Commission (IEC).

RECOMMENDATION GTPLEN2-A (WRC-97)

ROLE OF INTERNATIONAL MONITORING IN REDUCING APPARENT CONGESTION IN THE USE OF ORBITAL AND SPECTRUM RESOURCES

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the geostationary-satellite orbit and the radio-frequency spectrum are limited natural resources and are being increasingly utilized by space services;

b) the desirability of achieving a more effective use of the geostationary-satellite orbit and radio-frequency spectrum in order to assist administrations in satisfying their requirements and, to that end, the desirability of taking steps to make the International Frequency List reflect more accurately the actual use being made of these resources;

c) that monitoring information should assist ITU-R in discharging this function;

d) that facilities for monitoring of emissions originating from space stations are expensive,

recognizing

that an international monitoring system cannot be fully effective unless it covers all areas of the world,

invites ITU-R

to study and make recommendations concerning the facilities required to provide adequate coverage of the world with a view to ensuring efficient use of resources,

invites administrations

1 to make every effort to provide monitoring facilities as envisaged in Article **S16** of the Radio Regulations;

2 to inform ITU-R of the extent to which they are prepared to cooperate in such monitoring programmes as may be requested by ITU-R;

3 to consider the various aspects of monitoring emissions originating from space stations to enable the provisions of Article(s) **S21** and **S22** to be applied.

RECOMMENDATION COM4-A (WRC-97)

COORDINATION OF HF BROADCASTING SCHEDULES IN THE BANDS ALLOCATED TO THE BROADCASTING SERVICE BETWEEN 5 900 kHz AND 26 100 kHz

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that Article S12 establishes the principles and the Procedure for use of the frequency bands allocated to the HF broadcasting service between 5 900 kHz and 26 100 kHz;

b) that the aforementioned principles stipulate, *inter alia*, that the Procedure should promote the development of a voluntary coordination process among administrations to resolve incompatibilities;

c) that the Procedure itself encourages administrations to coordinate their schedules with other administrations as far as possible prior to submission;

d) that the development of coordination among administrations with the assistance of the Bureau, when requested, would result in better use of the spectrum allocated to the HF broadcasting service between 5 900 kHz and 26 100 kHz,

recognizing

a) that the participation of broadcasting organizations in this coordination process would make the task of resolving incompatibilities easier;

b) that multilateral coordination of the use of the HF broadcasting bands is already practiced on an informal basis in various regional coordination groups[1] ,

recommends administrations

to promote, as far as possible, regular coordination of their broadcasting schedules within appropriate regional coordination groups of administrations or broadcasting organizations in order to resolve or reduce incompatibilities, through bilateral or multilateral meetings or by correspondence (telephone, facsimile, email, etc.).

[1] Not related to the ITU Regions.

RECOMMENDATION COM5-A (WRC-97)

USE OF THE FREQUENCY BANDS 2 025 - 2 110 MHz AND 2 200 - 2 290 MHz BY THE SPACE RESEARCH, SPACE OPERATION, EARTH EXPLORATION-SATELLITE, FIXED AND MOBILE SERVICES

The World Radiocommunication Conference (Geneva, 1997),

considering

a) that the bands 2 025 - 2 110 MHz and 2 200 - 2 290 MHz are allocated on a primary basis to the space research, space operation, earth exploration-satellite, fixed and mobile services;

b) that, in response to resolutions from WARC-92, studies have resulted in a number of ITU-R Recommendations, which, when adhered to by the services, will result in a stable, long-term sharing environment (Recommendations ITU-R SA.364, SA.1019, F.1098, F.1247, F.1248, SA.1154, SA.1273, SA.1274 and SA.1275);

c) that this Conference adopted RR **S5.391**, which states that high-density mobile systems shall not be introduced in these frequency bands,

considering further

that enhancements in technology may enable the services mentioned in *considering* a) to minimize the total bandwidth requirement in these frequency bands,

noting

that WARC-92 considered that it is desirable to review the present and planned use of the frequency bands 2 025 - 2 110 MHz and 2 200 - 2 290 MHz, with the intent, where practicable, of satisfying some space mission requirements in bands above 20 GHz,

recognizing

that there are increasing requirements for emerging communication systems which need to be satisfied in the frequency range below 3 GHz,

recommends

that administrations planning to introduce new systems in the space research, space operation, earth exploration-satellite, fixed or mobile services in the bands 2 025 - 2 110 MHz and 2 200 - 2 290 MHz take into account the ITU-R Recommendations referred to in *considering* b) above when making assignments to these services, and implement enhancements in technology as early as practicable with a view to minimizing the total bandwidth required by systems of each service.

EDITORIAL AMENDMENTS TO CERTAIN WARC/WRC RESOLUTIONS AND RECOMMENDATIONS

Annex 1 to Document 27 (Report of the Director, BR) reviewed all the existing WARC/WRC Resolutions and Recommendations that require editorial amendments mainly from the following viewpoints:

- the recent ITU structural changes (from WARC to WRC, from CCIR to ITU-R, from IFRB to Radiocommunication Bureau, from Administrative Council to Council, etc.);
- renumbering of RR provisions resulting from simplification of the Radio Regulations;
- old CCIR Reports to be replaced by recent ITU-R Recommendations.

After reviewing Annex 1 to Document 27 (see DT/147), GTPLEN-1 concluded that the following WARC/WRC Resolutions and Recommendations require editorial amendments:

Resolutions	1, 2, 5, 7, 14, 15, 18, 44, 63, 105, 111, 205, 207, 208, 405, 411, 412, 522, 525, 526, 527, 528 and 703
Recommendations	9, 32, 61, 63, 64, 71, 316, 319, 402, 405, 506, 507, 604, 605, 606, 701, 702, 705, 707, 709, 710, 715, 718 and 719

It was decided that each Resolution or Recommendation shall have the following footnote "WRC-97 made editorial amendments to this Resolution/Recommendation". Table 1 shows proposed editorial amendments.

RESOLUTION 1

NOTIFICATION OF FREQUENCY ASSIGNMENTS[1]

The World Radiocommunication Conference (Geneva, 1997),

referring to

- the Preamble of the Constitution,
- Article 42 of the Constitution (Special Arrangements),
- Article **S6** of the Radio Regulations (Special Agreements),
- Article **S11** of the Radio Regulations (Notification and Recording of Frequency Assignments),
- Article **S12A** of the Radio Regulations (Planning and Procedures for the Bands Allocated Exclusively to the Broadcasting Service Between 5 950 kHz and 26 100 kHz),

resolves

that, unless specifically stipulated otherwise by special arrangements communicated to the Union by administrations, any notification of a frequency assignment to a station shall be made by the administration of the country on whose territory the station is located.

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[1] WRC-97 made editorial amendments to this Resolution.

RESOLUTION 2

EQUITABLE USE, BY ALL COUNTRIES, WITH EQUAL RIGHTS, OF THE GEOSTATIONARY-SATELLITE ORBIT AND OF FREQUENCY BANDS FOR SPACE RADIOCOMMUNICATION SERVICES[1]

The World Administrative Radio Conference (Geneva, 1979),

considering

that all countries have equal rights in the use of both the radio frequencies allocated to various space radiocommunication services and the geostationary-satellite orbit for these services,

taking into account

that the radio frequency spectrum and the geostationary-satellite orbit are limited natural resources and should be most effectively and economically used,

having in mind

that the use of the allocated frequency bands and fixed positions in the geostationary-satellite orbit by individual countries or groups of countries can start at various dates depending on the requirements and readiness of technical facilities of countries,

resolves

1. that the registration with the Radiocommunication Bureau of frequency assignments for space radiocommunication services and their use should not provide any permanent priority for any individual country or groups of countries and should not create an obstacle to the establishment of space systems by other countries;

2. that, accordingly, a country or a group of countries having registered with the Radiocommunication Bureau frequencies for their space radiocommunication services should take all practicable measures to realize the possibility of the use of new space systems by other countries or groups of countries so desiring;

3. that the provisions contained in paragraphs 1 and 2 of this Resolution should be taken into account by the administrations and the organs in the structure of the Union.

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[1] WRC-97 made editorial amendments to this Resolution.

RESOLUTION 5

TECHNICAL COOPERATION WITH THE DEVELOPING COUNTRIES IN THE STUDY OF PROPAGATION IN TROPICAL AREAS[1]

The World Administrative Radio Conference (Geneva, 1979),

having noted

that the assistance provided for the developing countries by the Union in cooperation with other United Nations specialized agencies, such as the United Nations Development Programme (UNDP), in the field of telecommunication augurs well for the future,

being aware

a) of the fact that the developing countries, particularly those in tropical areas, require adequate knowledge of radio wave propagation in their territories in order to make rational and economical use of the radio spectrum;

b) of the importance of propagation in radiocommunications;

c) of the importance of the work of the ITU-T and ITU-R study groups for the development of telecommunications in general and radiocommunications in particular,

considering

a) the need for the developing countries themselves to study telecommunications in general and propagation in particular in their territories, this being the best means of enabling them to acquire telecommunication techniques and to plan their systems effectively and in conformity with the special conditions in the tropical areas;

b) the scarcity of resources available in these countries,

resolves to invite the Secretary-General

1. to offer the assistance of the Union to developing countries in the tropical areas which endeavour to carry out national propagation studies in order to improve and develop their radiocommunications;

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[1] WRC-97 made editorial amendments to this Resolution.

2. to assist these countries, if necessary with the collaboration of international and regional organizations such as the African Postal and Telecommunications Union (APTU), the Panafrican Telecommunication Union (PATU) and the Union of National Radio and Television Organizations of Africa (URTNA) which may be concerned, in carrying out national propagation measurement programmes, including collecting appropriate meteorological data, on the basis of ITU-R Recommendations and Questions in order to improve the use of the radio spectrum;

3. to arrange funds and resources for this purpose from the UNDP or other sources in order to enable the Union to provide the countries concerned with adequate and effective technical assistance for the purpose of this Resolution,

urges administrations

to submit the results of these propagation measurements to the ITU-R for consideration in its studies,

invites the Council

to follow the progress made in carrying out programmes of propagation measurements and the results achieved, and to take any action that it considers necessary.